

Simulation and semantics

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There is considerable empirical evidence that in the interpretation of natural language utterances there is simulated speech. Zeevat 2009 takes this as a starting point in claiming that the interpretation of an utterance can be equated with a full simulation of that utterance, which includes the intention behind the utterance, the content attributed to the individual words, the syntactic relations in the utterance and its pronunciation. The simulation can be understood as the brain exapting its language production capacities as the best model of the likelihood -the probability that the interpretation causes the signal- to check the incremental interpretation.

This is an instance of Barsalou's understanding by simulation, applied to one particular class of events, natural language utterances. For Barsalou, the same process applies in the same way to other classes of events, especially to the perception of the action of others. Since this is the understanding of directly perceived events, it makes good sense to also apply the construction of simulations as a model of indirectly perceived events, the ones that one learns about by verbal reports. Understanding such a report is simulating the action it expresses. The talk investigates whether a "simulation semantics" has consequences for formal semantics of natural language. At first sight simulations should replace logical representations which anyway fall short of proper understanding being limited to a characterisation of truth conditions. This issue will be investigated by a closer look at temporal semantics and at a class of complex verbs, the communication verbs (say, convey, agree) that are well suited for looking at simulation. As it turns out, simulation merely leads to a sharper criterion of when a logical analysis of a verb or its temporal structure is complete by the requirement that the concept makes it clear by what causal processes the effects are achieved: without such analysis a simulation does not make sense.

There are also consequences for two theoretical issues. One is the identity of events as in examples like:

(1) Aliena broke her skis. She lost her only means of transport.

The closely related other issue is constituency of one event by another. These can be adequately approached by simulations: can A be simulated without simulating B?